

ENVIRONMENTAL PROTECTION AGENCY  
GENERAL INFORMATIONConsolidated Permits Program  
(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F ILD0418890233

GENERAL

## GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI (except VI-B which must be completed regardless). Complete all items if no label has been provided. Refer to instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

EPA Region 5 Records Ctr.



295815

## LABEL ITEMS

I. EPA I.D. NUMBER

ILD041889023

III. FACILITY NAME

CLARK OIL & REFINING CORP  
PO BOX 7  
HARTFORD, IL 62048

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

HARTHORNE ST  
HARTFORD, IL 62048

## II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X'			SPECIFIC QUESTIONS	MARK 'X'		
	YES	NO	FORM ATTACHED		YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X			D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X			F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

## III. NAME OF FACILITY

1	SKIP
---	------

## IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)		B. PHONE (area code & no.)	
2	VanPetten SL Manager C+S	618	254 7301

## V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX		B. CITY OR TOWN		C. STATE	D. ZIP CODE
3	PO Box 7	4	Hartford	IL	62048

## VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER		B. COUNTY NAME		C. CITY OR TOWN		D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
5	Hawthorne St.	Madison	6	Hartford	IL	62048	119	AK

## VII. SIC CODES (4-digit, in order of priority)

A. FIRST										B. SECOND									
7 2911 (specify) Petroleum Refining										7 (specify)									
C. THIRD										D. FOURTH									
7 (specify)										7 (specify)									

## VIII. OPERATOR INFORMATION

A. NAME																																								B. Is the name listed in Item VIII-A also the owner?									
8 Clark Oil & Refining Corporation																																								<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO									
C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)																														D. PHONE (area code & no.)																			
F = FEDERAL S = STATE P = PRIVATE										M = PUBLIC (other than federal or state) O = OTHER (specify)										P (specify)										618 254 7361																			
E. STREET OR P.O. BOX																																																	
20 Box 7																																																	
F. CITY OR TOWN																				G. STATE										H. ZIP CODE										IX. INDIAN LAND									
B Hartford																				IL										62648										Is the facility located on Indian lands? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO									

## X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)															D. PSD (Air Emissions from Proposed Sources)														
9 N IL 6661244															9 P														
B. UIC (Underground Injection of Fluids)															E. OTHER (specify)														
9 U															(specify) See attached sheet.														
C. RCRA (Hazardous Wastes)															E. OTHER (specify)														
9 R															(specify)														

## XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

F9: A150

## XII. NATURE OF BUSINESS (provide a brief description)

Petroleum Refining. Crude is desalted and undergoes atmospheric and vacuum distillation. Resulting streams are depropanized, debutanized, depentanized and dehexanized. Coker fractionation produces gas oils which are refined to fuel oils and fluid feed stocks. Coke is also produced. At the reformer, finished gasoline is produced, along with fuel gas. The fluid unit produces gasoline and feed for the alkylation unit, while the alkylation unit produces gasoline, propane, and butane.

F9: A151

## XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)		B. SIGNATURE		C. DATE SIGNED	
Richard P. Nelson Vice President-Manufacturing		<i>Richard P. Nelson</i>		11/17/80	

## COMMENTS FOR OFFICIAL USE ONLY

C									
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FORM 3 RCRA		U.S. ENVIRONMENTAL PROTECTION AGENCY <b>HAZARDOUS WASTE PERMIT APPLICATION</b> Consolidated Permits Program (This information is required under Section 3005 of RCRA.)	I. EPA I.D. NUMBER	
			FIELD 41 8890133	

FOR OFFICIAL USE ONLY		COMMENTS
APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	

**II. FIRST OR REVISED APPLICATION**

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

**A. FIRST APPLICATION** (place an "X" below and provide the appropriate date)

☒ 1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.)

☐ 2. NEW FACILITY (Complete item below.)

**FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)**

YR.	MO.	DAY
8	4	3

**FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN**

YR.	MO.	DAY

**B. REVISED APPLICATION** (place an "X" below and complete Item I above)

☐ 1. FACILITY HAS INTERIM STATUS

☐ 2. FACILITY HAS A RCRA PERMIT

**III. PROCESSES - CODES AND DESIGN CAPACITIES**

**A. PROCESS CODE** - Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the form (Item III-C).

**B. PROCESS DESIGN CAPACITY** - For each code entered in column A enter the capacity of the process.

1. AMOUNT - Enter the amount.

2. UNIT OF MEASURE - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
<b>Storage:</b>		
CONTAINER (barrel, drum, etc.)	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
<b>Disposal:</b>		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
<b>Treatment:</b>		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING ITEM III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY		FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY		FOR OFFICIAL USE ONLY
		1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)				1. AMOUNT	2. UNIT OF MEASURE (enter code)	
X-1	S02	600	G		5	T01	5195467000	U	
X-2	T03	20	E		6	S02	225264000	G	
1	T01	999999999	U		7	S02	22,154 000	G	
2	T01	999999999	U		8	S02	61,538 000	G	
3	T01	999999999	U		9	S02	61,538 000	G	
4	T01	9,444 000	U		10	S02	61,538 000	G	

## III. PROCESSES (continued)

C. SPACE FOR ADDITIONAL PROCESS CODES  
INCLUDE DESIGN CAPACITY.

FOR DESCRIBING OTHER PROCESSES (code " ").

FOR EACH PROCESS ENTERED HERE

Number	Process Code	Design Capacity	Unit of Measure
11	S02	61,538	000 G
12	S02	95,848	000 G
13	S02	95,848	000 G
14	S02	95,848	000 G
15	S02	95,848	000 G
16	S02	214,122	000 G
17	S02	214,122	000 G
18	S02	214,122	000 G
19	S02	214,122	000 G
20	S02	108,239	000 G
21	S02	108,239	000 G

Number	Process Code	Design Capacity	Unit of Measure
22	S02	429,000	000 G
23	S02	429,000	000 G
24	S02	429,000	000 G
25	S02	429,000	000 G
26	S02	9,159	000 G
27	S02	62,239	000 G
28	S02	58,860	000 G
29	S02	343524	000 G

## IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE
POUNDS	P
TONS	T

METRIC UNIT OF MEASURE	CODE
KILOGRAMS	K
METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

## D. PROCESSES

## 1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

- Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
- In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
- Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV (shown in line numbers X-1, X-2, X-3, and X-4 below) — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

EPA I.D. NUMBER (enter from page 1)													FOR OFFICIAL USE													
<div style="display: flex; justify-content: space-between;"> <span>W I L D 0 4 1 8 8 9 4 2 3 3 1</span> <span>T/A C</span> </div>													<div style="display: flex; justify-content: space-between;"> <span>W</span> <span>DUP</span> <span>T/A C</span> <span>DUP</span> </div>													
IV. DESCRIPTION OF HAZARDOUS WASTES (continued)																										
LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	1. PROCESS CODES (enter)								2. PROCESS DESCRIPTION (if a code is not entered in D(1))														
				27	28	27	28	27	28	27	28															
1	K 4 9	21,261 000	P	T	0	1	S	0	2																	
2	K 4 8									Included with Above																
3	K 4 5 1									Included with Above																
4	K 4 5 4	8,444 000	P	S	4	2																				
5	K 4 5 2	19,599 000	P	S	4	2																				
6	D 4 4 3	69,444 000	P	S	4	2	Dily Sewer Sludge																			
7																										
8																										
9																										
10																										
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26																										

# IV. DESCRIPTION OF HAZARDOUS WASTE

(continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. (enter from page 1)

S	T/A	C
F	I	L
D	0	4
1	8	8
9	0	2
3	3	6

## V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

F6: A/55

## VI. PHOTOGRAPHS

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

F6: A/56

## VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)

LONGITUDE (degrees, minutes, & seconds)

38	50	00	50
65	66	67	68

09	04	00	59	59
72	73	74	75	76

## VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER

2. PHONE NO. (area code & no.)

15	16	17	18	19	20	21	22	23	24	25
E										

3. STREET OR P.O. BOX

4. CITY OR TOWN

5. ST.

6. ZIP CODE

15	16	17	18	19	20	21	22	23	24	25
F										

## IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)

B. SIGNATURE

C. DATE SIGNED

Richard P. Nelson

*Richard P. Nelson*

11/17/80

## X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)

B. SIGNATURE

C. DATE SIGNED



1190500002 copy: file, Son in Region

Clark Oil & Refining Corporation  
Woodriver Refinery  
P.O. Box 7  
Hartford, Illinois 62048  
618-254-7301

November 23, 1982

Mr. William Miner  
Chief, Technical, Permits, and Compliance Section  
U.S. E.P.A. RCRA Activities  
Box A 3587  
Chicago, IL 60690

RECEIVED

DEC 10 1982

WASTE MANAGEMENT BRANCH  
EPA, REGION V

Dear Sir:

Enclosed please find an amended Part A "Application for a Hazardous Waste Permit" and a list of processes we wish to withdraw.

After review of our present waste classifications and foreseeable process operations, we have chosen to discontinue the permitting process in regard to Part B.

In our original Part A application, a long list of tanks was included as hazardous waste storage facilities. It is now apparent that these tanks were misidentified. The tanks have all served in the past as raw material or finished product storage tanks. They were included in the application since we felt they could be used as hazardous waste storage facilities if the need arose. None of the tanks have been used for this service, and we can foresee no need for them in the future.

We are in the process of designing and building a weathering pad for leaded tank bottoms. It is my understanding that this is permitted under Part 122.23 Section 2, "Changes in the Facility During Interim Status". The pad was part of our original plans, but actual construction was not envisioned when the original Part A was filed. Information from API Publication 2015A, published in June 1982, indicates that sludge from leaded gasoline tanks will normally weather within four weeks when the sludge temperature is above 32°F. Therefore, we see no problem with exceeding the ninety day period for holding the waste.

If other information beyond this letter and the amended Part A application is needed, please advise us as to what is required.

Sincerely,

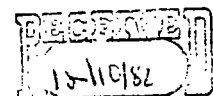
CLARK OIL & REFINING CORPORATION

S. L. Van Petten

S. L. Van Petten  
Manager of Construction and Services

Att.

ILD 041889023  
PTA GEN TSD 1



The following is a list of processes to be withdrawn and our reasons for withdrawing. The list is as it appears on our original Part A application.

<u>Process Code</u>	<u>Amount</u>	<u>Unit of Measure</u>	<u>Reason for Withdrawal</u>
T 01	1,728,000	U	Pretreatment. Not part of Part B.
T 01	1,728,000	U	" " "
T 01	1,728,000	U	" " "
T 01	9,000	U	Neutralization. Not H.W. Facility
T 01	2,467	U	Reclamation. Not treating.
SO2	20,500	G	Misidentified. Never used.
SO2	20,150	G	" "
SO2	61,538	G	" "
SO2	61,538	G	" "
SO2	61,538	G	" "
SO2	61,538	G	" "
SO2	95,808	G	" "
SO2	95,808	G	" "
SO2	95,808	G	" "
SO2	95,808	G	" "
SO2	214,122	G	" "
SO2	214,122	G	" "
SO2	214,122	G	" "
SO2	214,122	G	" "
SO2	108,239	G	" "
SO2	108,239	G	" "
SO2	420,000	G	" "
SO2	91,150	G	" "
SO2	62,230	G	" "
SO2	58,860	G	" "

CEK 11/23/82

<b>FORM</b> <b>1</b> <b>GENERAL</b>	<b>U.S. ENVIRONMENTAL PROTECTION AGENCY</b> <b>GENERAL INFORMATION</b> Consolidated Permits Program (Read the "General Instructions" before starting.)	<b>I. EPA I.D. NUMBER</b> <div style="border: 1px solid black; padding: 2px;">         I L D O 4 1 8 8 9 0 2 3       </div>
<b>LABEL ITEMS</b> <div style="border: 1px solid black; padding: 5px;"> <div style="display: flex; justify-content: space-between;"> <div style="width: 20%;"> <b>I. EPA I.D. NUMBER</b>   <b>III. FACILITY NAME</b>   <b>V. FACILITY MAILING ADDRESS</b>   <b>VI. FACILITY LOCATION</b> </div> <div style="width: 80%; text-align: center; border: 1px solid black; padding: 20px;"> <b>PLEASE PLACE LABEL IN THIS SPACE</b> </div> </div> </div>		<b>GENERAL INSTRUCTIONS</b> If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI (except VI-B which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

<b>II. POLLUTANT CHARACTERISTICS</b> <b>INSTRUCTIONS:</b> Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.									
SPECIFIC QUESTIONS	MARK 'X'			SPECIFIC QUESTIONS	MARK 'X'				
	YES	NO	FORM ATTACHED		YES	NO	FORM ATTACHED		
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X			
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X			D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)		X			
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X			F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X			
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X			
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X			

<b>III. NAME OF FACILITY</b>	
1	SKIP Clark Oil & Refining Corporation

<b>IV. FACILITY CONTACT</b>			
A. NAME & TITLE (last, first, & title)		B. PHONE (area code & no.)	
2	Van Petten, S. L. Manager Construction & Services	618	254 7301

<b>V. FACILITY MAILING ADDRESS</b>			
A. STREET OR P.O. BOX			
3	P.O. Box 7		
B. CITY OR TOWN		C. STATE	D. ZIP CODE
4	Hartford	IL	62048

<b>VI. FACILITY LOCATION</b>			
A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER			
5	Hawthorne Street		
B. COUNTY NAME		C. CITY OR TOWN	D. STATE
Madison		Hartford	IL
E. ZIP CODE		F. COUNTY CODE (if known)	
62048		119	

RECEIVED  
 12/10/82

## II. SIC CODES (4-digit, in order of priority)

A. FIRST

B. SECOND

C. THIRD

D. FOURTH

## III. OPERATOR INFORMATION

A. NAME

B. Is the name listed in Item VIII-A also the owner?

☐ YES ☒ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)

D. PHONE (area code & no.)

F = FEDERAL M = PUBLIC (other than federal or state)  
S = STATE O = OTHER (specify)  
P = PRIVATE

E. STREET OR P.O. BOX

F. CITY OR TOWN

G. STATE

H. ZIP CODE

IX. INDIAN LAND

Is the facility located on Indian lands?

☐ YES ☒ NO

## X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)

D. PSD (Air Emissions from Proposed Sources)

B. UIC (Underground Injection of Fluids)

E. OTHER (specify)

C. RCRA (Hazardous Wastes)

E. OTHER (specify)

## XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

## XII. NATURE OF BUSINESS (provide a brief description)

Petroleum Refining. Crude is desalted and undergoes atmospheric and vacuum distillation. Resulting streams are depropanized, debutanized, depentanized and dehexanized. Coker fractionator produces gas oils which are refined to fuel oils and fluid feed stocks. Coke is a byproduct. At the reformer, finished gasoline is produced along with fuel gas. The fluid unit produces gasoline and feed for the alkylation unit, while the alkylation unit produces gasoline, propane and butane.

## XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)

B. SIGNATURE

C. DATE SIGNED

RICHARD P. NELSON  
VICE PRESIDENT REFINING OPERATIONS

*Richard P. Nelson*

12/3/82

## COMMENTS FOR OFFICIAL USE ONLY

FORM RCFA	<b>EPA</b>	U.S. ENVIRONMENTAL PROTECTION AGENCY <b>HAZARDOUS WASTE PERMIT APPLICATION</b> Consolidated Permits Program (This information is required under Section 3005 of RCRA.)	I. EPA I.D. NUMBER F I L D 0 4 1 8 8 9 0 2 3 1
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FOR OFFICIAL USE ONLY		COMMENTS
APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	

**II. FIRST OR REVISED APPLICATION**

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

<b>A. FIRST APPLICATION</b> (place an "X" below and provide the appropriate date)		<input type="checkbox"/> <b>2. NEW FACILITY</b> (Complete item below.)
<input checked="" type="checkbox"/> <b>1. EXISTING FACILITY</b> (See instructions for definition of "existing" facility. Complete item below.)		
FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)		FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN
YR. MO. DAY 8 4 1 0 3 0 3		YR. MO. DAY 73 74 75 76 77 78
<b>B. REVISED APPLICATION</b> (place an "X" below and complete Item I above)		<input type="checkbox"/> <b>2. FACILITY HAS A RCRA PERMIT</b>
<input checked="" type="checkbox"/> <b>1. FACILITY HAS INTERIM STATUS</b>		

**III. PROCESSES - CODES AND DESIGN CAPACITIES**

**A. PROCESS CODE** - Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the form (Item III-C).

**B. PROCESS DESIGN CAPACITY** - For each code entered in column A enter the capacity of the process.  
1. AMOUNT - Enter the amount.  
2. UNIT OF MEASURE - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PRO- CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	PROCESS	PRO- CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
<b>Storage:</b>			<b>Treatment:</b>		
CONTAINER (barrel, drum, etc.)	S01	GALLONS OR LITERS	TANK	T01	GALLONS PER DAY OR LITERS PER DAY
TANK	S02	GALLONS OR LITERS	SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS	INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS	OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)	T04	GALLONS PER DAY OR LITERS PER DAY
<b>Dispose:</b>					
INJECTION WELL	D79	GALLONS OR LITERS			
LANDFILL	D80	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER			
LAND APPLICATION	D81	ACRES OR HECTARES			
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY			
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS			
UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	ACRE-FEET	A	
LITERS	L	TONS PER HOUR	HECTARE-METER	F	
CUBIC YARDS	Y	METRIC TONS PER HOUR	ACRES	A	
CUBIC METERS	C	GALLONS PER HOUR	HECTARES	Q	
GALLONS PER DAY	U	LITERS PER HOUR			

**EXAMPLE FOR COMPLETING ITEM III** (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

D U P										T/A C		1			
B. PROCESS DESIGN CAPACITY															
A. PRO- CESS CODE (from list above)		1. AMOUNT (specify)		2. UNIT OF MEAS- URE (enter code)		FOR OFFICIAL USE ONLY		A. PRO- CESS CODE (from list above)		1. AMOUNT		2. UNIT OF MEAS- URE (enter code)		FOR OFFICIAL USE ONLY	
X-1 S 0 2		600		G				5							
X-2 T 0 3		20		E				6							
1 T 0 4		52		Y				7							
2								8							
3								9							
4								10							

### III. PROCESSES (continued)

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

Pad for weathering leaded tank bottoms. An annual quantity of this waste cannot be accurately determined since the tanks are normally cleaned only when entry into the tank is required. When cleaning is necessary, experience has shown the average volume of bottoms to be approximately 52 yd<sup>3</sup>. This material would be spread on the pad to a depth of about three inches and allowed to weather until no longer hazardous. API literature indicates the period of time required for the weathering above 32°F is four weeks. Pad will be designed for sixty-six cubic yards.

### IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE CODE  
POUNDS . . . . . P  
TONS . . . . . T

METRIC UNIT OF MEASURE CODE  
KILOGRAMS . . . . . K  
METRIC TONS . . . . . M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

### D. PROCESSES

#### 1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

#### 2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV (shown in line numbers X-1, X-2, X-3, and X-4 below) — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

EPA ID NO. <b>ILD041889023</b>	OFFICIAL USE	DUP
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**III. DESCRIPTION OF HAZARDOUS WASTE**

1. EPA HAZARDOUS WASTE NO.	2. ESTIMATED ANNUAL QUANTITY OF WASTE	3. UNIT (LBS, TONS, etc.)	4. PROCESS CODES (RSCF)				5. PROCESS DESCRIPTION (If a code is not entered in 4, 1.)
			27	28	29	30	
1	K052	19,600	P	T04			
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							

# IV. DESCRIPTION OF HAZARDOUS WASTES

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. (enter from page 1)

ILDO418890236

## V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

## VI. PHOTOGRAPHS

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

## VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)

LONGITUDE (degrees, minutes, & seconds)

38 50 00.5

090 04 05.9

## VIII. FACILITY OWNER

☐ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER

2. PHONE NO. (area code & number)

Clark Oil & Refining Corporation

314-889-96

3. STREET OR P.O. BOX

4. CITY OR TOWN

5. ST.

6. ZIP CODE

7930 Clayton Road

Richmond Heights

MO

63117

## IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)

B. SIGNATURE

C. DATE SIGNED

## X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)

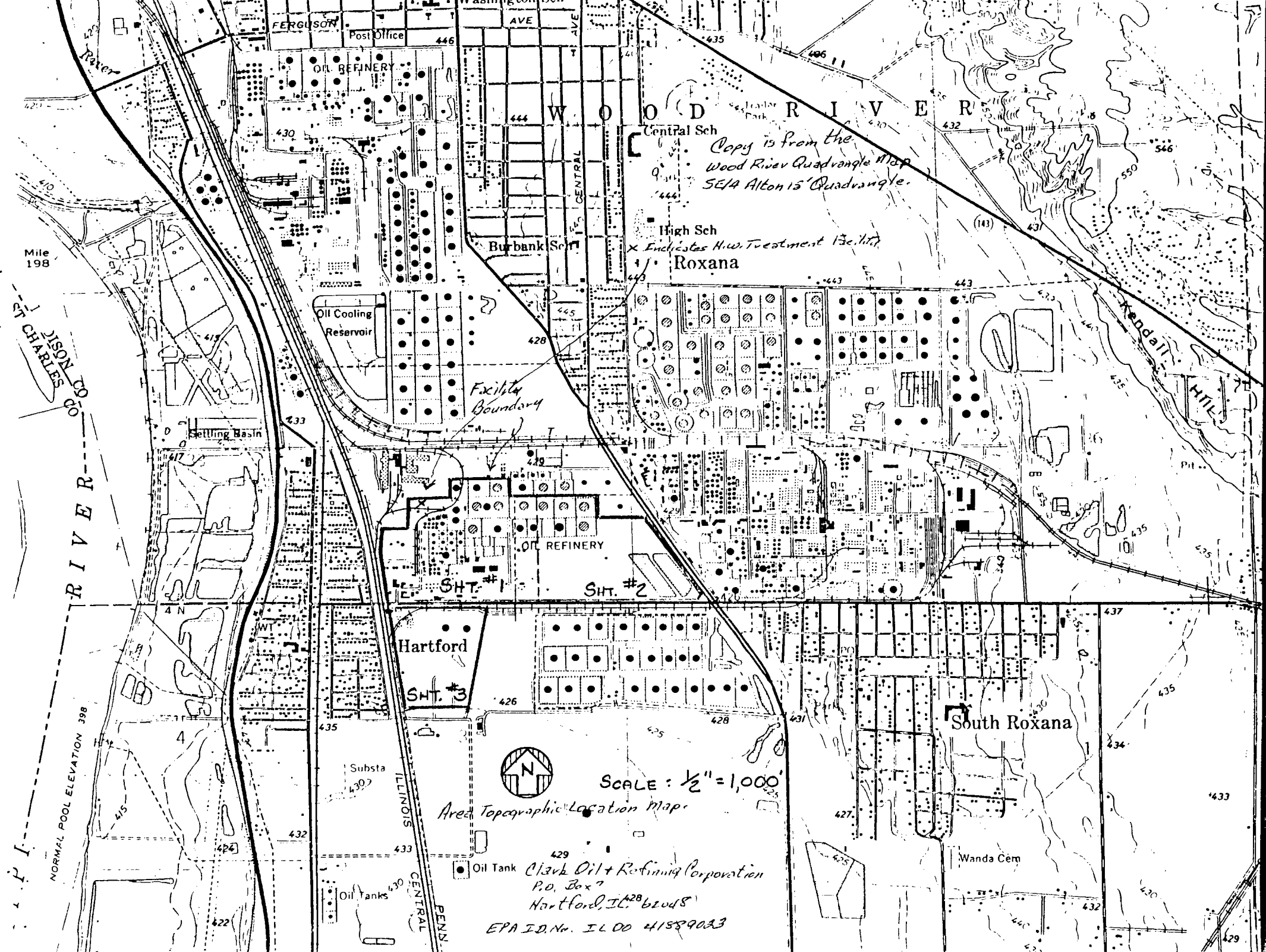
B. SIGNATURE

C. DATE SIGNED

RICHARD P NELSON

Richard P. Nelson

12/3/82



Copy is from the  
Wood River Quadrangle Map  
SE 1/4 Alton 15' Quadrangle.

Central Sch  
High Sch  
X Indicates H.W. Treatment Facility  
Roxana

Facility Boundary

SHT. #1

SHT. #2

Hartford

SHT. #3

South Roxana



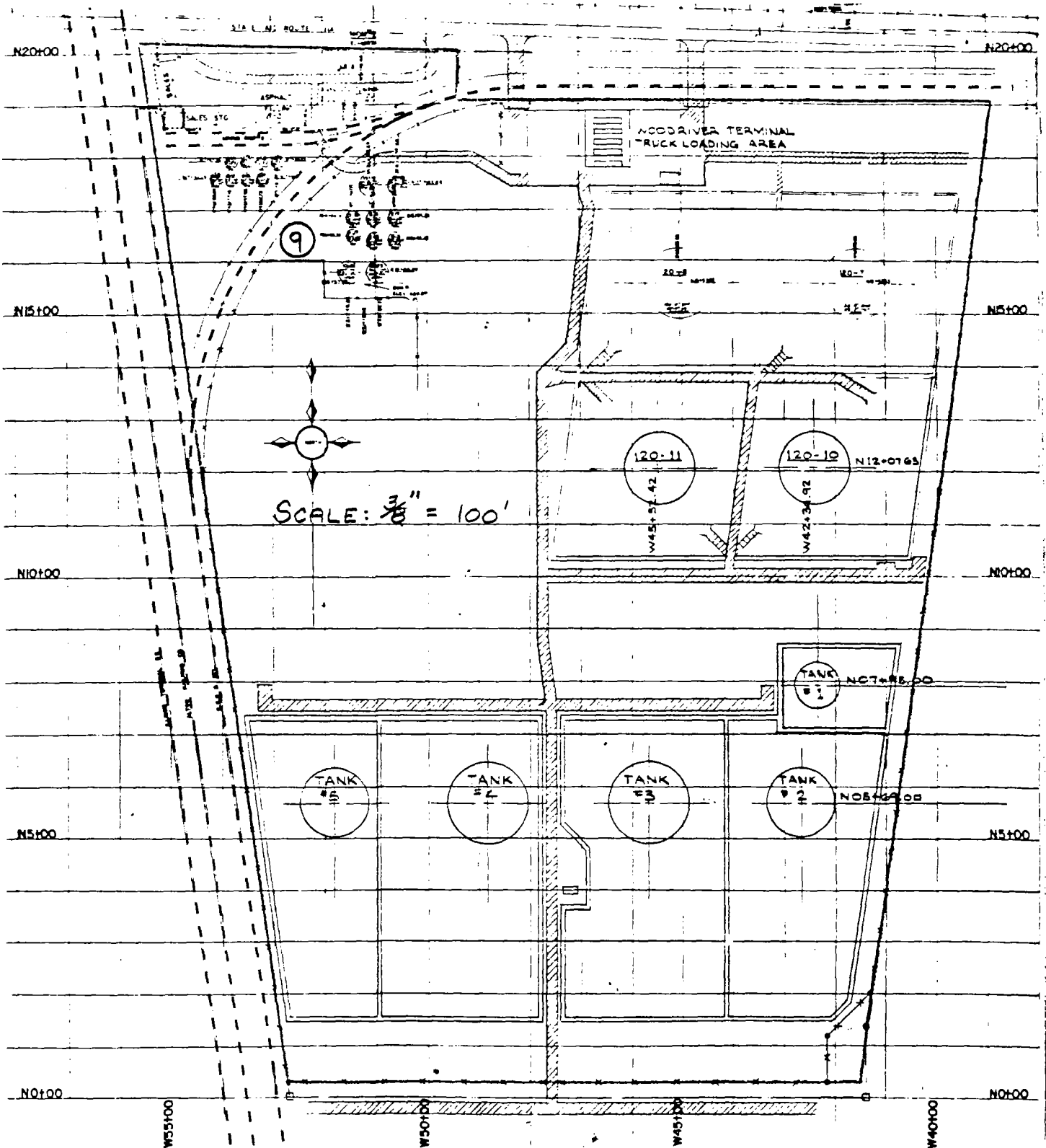
SCALE: 1/2" = 1,000'

Area Topographic Location Map

Oil Tank  
Clark Oil & Refining Corporation  
P.O. Box 7  
Hartford, IL 62428  
EPA ID No. IL 00 415890A3

Clark Oil + Refining Corporation  
P.O. Box 7  
Hartford, IL. 62048  
EPA ID. NO. ILDO 41889023  
Facility Drawings.

Facilities To Be Withdrawn  
9- Planned Storage



SHEET #3

# Facilities To Be Withdrawn

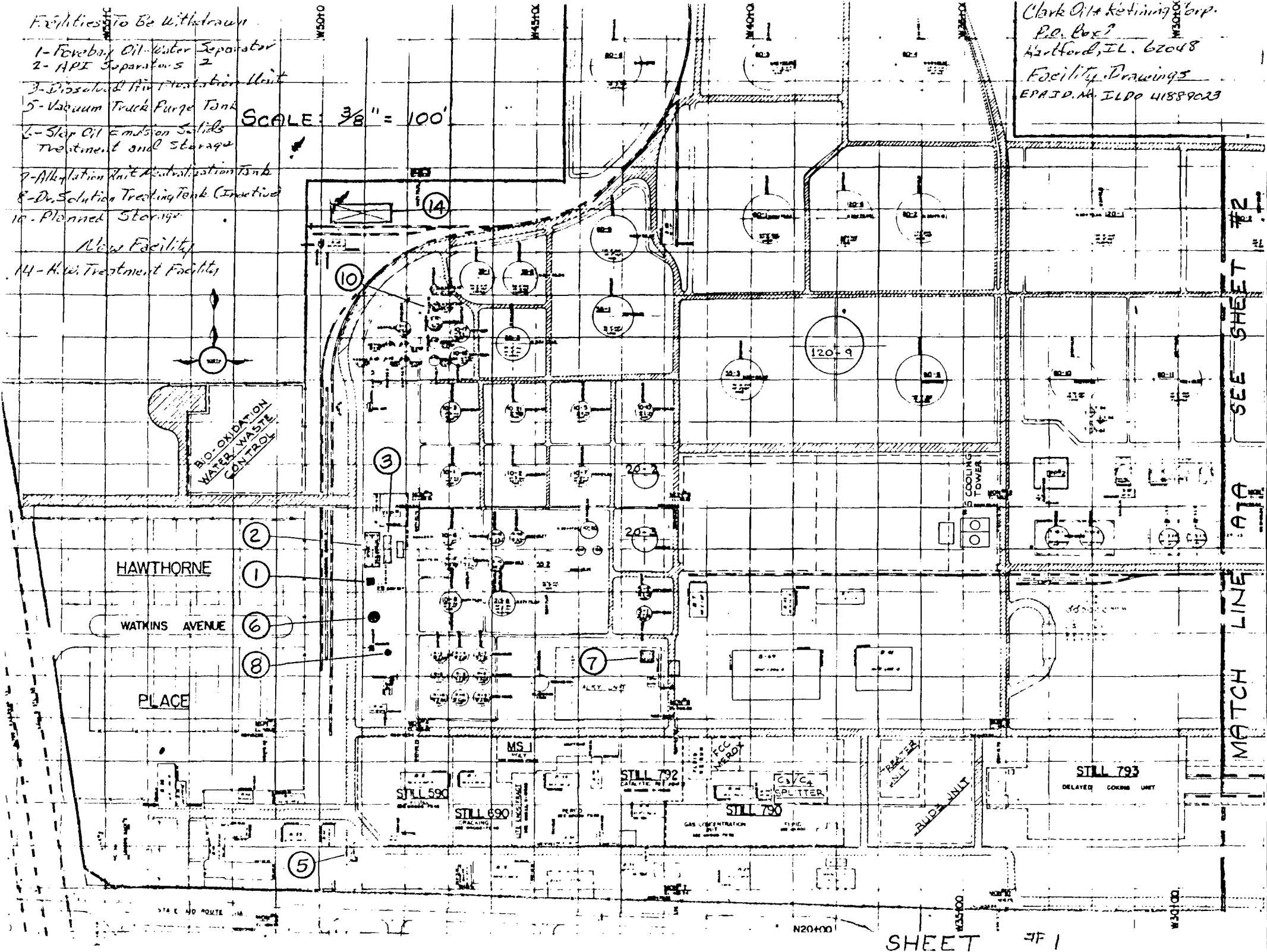
- 1- Forebay Oil-Water Separator
- 2- API Separator
- 3- Dissolved Air Flotation Unit
- 5- Vacuum Truck Purge Tank
- 6- Slur Oil Emulsion Solids Treatment and Storage
- 7- Alkylation Unit Neutralization Tank
- 8- Dr. Solution Treating Tank (Inactive)
- 10- Planned Storage

SCALE:  $\frac{3}{8}" = 100'$

## New Facility

- 14- H.W. Treatment Facility

Clark Oil Refining Corp.  
P.O. Box 7  
Hartford, IL. 62048  
Facility Drawings  
EPA ID. NO. ILDO 41589023





*Sub-unit 11905001-2*  
*11905001-2*  
*11905001-2*  
*11905001-2*

**NATIONAL MARINE SERVICE**

INCORPORATED  
ESTABLISHED 1927

1750 BRENTWOOD BOULEVARD  
ST. LOUIS, MISSOURI 63144  
AREA 314 968-2700

One of the NICOR basic energy companies

May 27, 1983

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JUN 02 1983

E.P.A. - D.L.P.C.  
STATE OF ILLINOIS

Mr. Mark Haney, Manager  
Compliance Sub-Unit  
Illinois Environmental Protection Agency  
Division of Land Pollution Control  
2200 Churchill Road  
Springfield, Illinois 62706

Re: 11905001--Madison County  
Hartford/National Marine  
Service  
Subpart F: Groundwater  
Monitoring

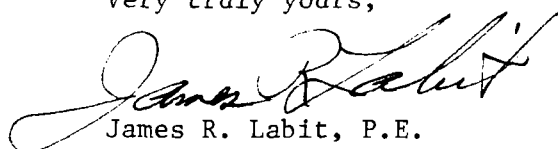
Dear Mr. Haney:

This letter will transmit our response to your May 2nd notification. The company is continually upgrading analysis techniques and procedures with respect to groundwater monitoring.

The intent of groundwater monitoring is verification that a surface impoundment does not contribute to subsurface water quality degradation. Also, a change in water quality, which is significant, should forewarn the company that a problem is developing. We intend to meet these needs and be in compliance with IEPA regulations.

Refer to the attached response report and direct any questions to the writer.

Very truly yours,

  
James R. Labit, P.E.

JRL:pk  
Enclosure

RECEIVED

Groundwater Monitoring  
Hartford/National Marine Service  
Title 35, IAC, Part 725, Subpart F

JUN 02 1983

— D.L.P.C.  
STATE OF ILLINOIS

Section 725.194(2)(2)(A). The subsurface water near the lagoons is not considered to be drinking water quality without subsequent processing through normal water plant procedures. No private drinking wells are in the immediate vicinity of the lagoon system; therefore, application of Appendix III parameters are inappropriate for this specific case. Materials placed into the lagoon system do not have Appendix III items as constituents, rendering data from Appendix III water analysis as questionable.

To fulfill the monitoring obligations alternate parameters (C.O.D., Benzene, Toluene, Xylene, pH) were selected to provide quarterly report data. At the time that the first annual report was submitted, two (2) quarterly monitoring reports (July 1982, November 1982) had been submitted to your office. Because we had not received information to the contrary, we believed the parameter substitutions to be approved.

Section 725.194(2)(2)(B). At the time the annual report was generated, only two (2) quarter groundwater analyses were available and would not have provided a meaningful water quality evaluation. We were also developing a computer aided statistical analysis program, which was not completed. We now have four (4) quarters of monitoring data, plus a computer program to provide meaningful and detailed evaluation. The data thus far collected does not indicate an adverse contribution to the groundwater quality by the lagoon system.

Sample Replications - Because the wells were new and sampling was performed immediately after the installation, we were concerned that residual construction materials might distort the sample readings. We analyzed only one (1) sample per well. Subsequently, a management decision was made to continue quarterly sample analysis beyond the first year. Combined with computer analysis, the sampling program should exceed all regulatory requirements. Multiple sample replications during the first year are to off-set and smooth analytical variances, the computer model eliminates that problem.

Sample Parameters - As stated previously, we believed that the parameter substitution was acceptable. During this analysis we noticed that a partial inconsistency exists among the quarterly parameters. Beginning with the 3rd quarter 1983, the parameter list will include the following:

Chloride	Benzene
Iron	Toluene
Manganese	Xylene
Phenol	pH
Sodium	Specific Conductance
Sulfate	Chemical Oxygen Demand

We are substituting C.O.D. for T.O.C. due to the nature of the materials in the lagoon. Organic Halogen has been eliminated because local laboratories are not equipped to provide the analysis and it is not relevant to materials placed in the lagoon system.

Statistical Analysis - The company has a computer software package which includes a statistical analysis and projection section. Any type of standard statistical analysis can be produced through the system. Students' t testing, both single and double tail, can be performed. A model for normal distribution testing has been created to analyze the sample data. The software system needs only two data pieces as analytical input.

Three (3) parameters (Benzene, Toluene, Xylene) were not statistically analyzed because each has remained unmeasurable for all samples. C.O.D., pH, and conductance have been analyzed. Where a specific parameter sample reading is not available, replications of existing data points are substituted. A distinction between upgradient and downgradient wells has not been made for creation of mean and standard deviation values.

Individual well samples are identified through an I.D. number, for example: 3Q8211. 3Q is the quarter, 82 is the year, 1 is well #1, and 1 is the first replicate sample taken from this well for this quarter. Each parameter reading, by well, is statistically analyzed. A new mean and standard deviation is created for each successive parameter reading. A 90% confidence (2.5 standard deviations from the mean) is established for each reading. Normal approximation and frequency tables are created for each well sample parameter. Sample statistics for each data piece show correlation between a standard normal curve (N 0,1) and the randomly generated curve. Both skewness and kurtosis describe the fit. Finally, a histogram for the last reading of each parameter is plotted to give visual reinforcement of the numerical information and actual high (low) points for the respective populations.

Analysis of Existing Data - Review of Plate #1 indicates all readings to be within 2.5 standard deviations of the mean (90% confidence). Conductance sample 1Q8331 is 1064 vs. 1053 @ 90% confidence. Subsequent sample 2Q8331 is 855, back within 90% confidence. Conductance sample 1Q8331 is compared to the conductance histogram (Plate #5) to determine if it occurs within the expected, randomly generated population. A population high value of 1140 is expected; therefore, the 1064 reading is within a normal population and represents no significant change.

Section 725.194(2)(2)(C). No change of surface elevations has occurred since the establishment of the monitoring well system.

	3Q8211	3Q8221	3Q8231	3Q8241	4Q8211	4Q8221	4Q8231	4Q8241	1Q8311	1Q8321
COD READINGS	33	17	42	53	33	17	42	53	33	17
MEAN COD	25	30.67	36.25	35.60	32.50	33.86	36.25	35.89	34	34.73
STDDEV COD	11.31	12.66	15.22	13.26	14.88	13.35	14.09	13.22	13.82	13.33
CODR	53.28	62.32	74.29	68.75	67.70	67.22	71.47	68.95	68.56	68.06
PH READINGS	6.940	7	6.960	7.110	6.940	7	6.960	7.110	7.060	7.110
MEAN PH	6.970	6.967	7.003	6.990	6.992	6.987	7.003	7.009	7.019	7.039
STDDEV PH	.0424	.0306	.0759	.0714	.0640	.0596	.0703	.0685	.0720	.0954
PHRH	7.076	7.043	7.192	7.169	7.152	7.136	7.178	7.180	7.199	7.278
PHRL	6.864	6.890	6.813	6.811	6.832	6.838	6.827	6.838	6.839	6.800
CONDUCT READINGS	813	633	654	714	813	633	654	714	787	575
MEAN CONDUCT	723	700	703.5	725.4	710	702	703.5	712.8	699	732.2
STDDEV CONDUCT	127.3	98.42	80.67	85.31	85.12	80.54	74.68	75.20	83.22	135.4
CONDUCTR	1041	946.1	905.2	938.7	922.8	903.3	890.2	900.8	907.0	1071

STATISTICAL MODEL FOR HARTFORD LAGOON MONITORING WELLS

	1Q8331	1Q8341	2Q8311	2Q8321	2Q8331	2Q8341
COD READINGS	42	53	33	17	42	53
MEAN COD	36.25	36	34.64	35.13	36.25	36.25
STDDEV COD	13.77	13.21	13.67	13.31	13.61	13.61
CODR	70.66	69.02	68.82	68.41	70.28	70.28
PH READINGS	7.240	7.340	7.450	7.130	7.290	7.200
MEAN PH	7.064	7.094	7.096	7.109	7.115	7.115
STDDEV PH	.1258	.1611	.1551	.1576	.1539	.1539
PHRH	7.379	7.497	7.484	7.503	7.500	7.500
PHRL	6.750	6.691	6.709	6.715	6.730	6.730
CONDUCT READINGS	1064	690	917	562	855	704
MEAN CONDUCT	728.7	743.2	730.2	738.5	736.4	736.4
STDDEV CONDUCT	129.7	134.7	138.2	137.0	132.6	132.6
CONDUCTR	1053	1080	1076	1081	1068	1068

STATISTICAL MODEL FOR HARTFORD LAGOON MONITORING WELLS

ENTER SOLVE OPTIONS  
BASE MODEL

Plate #1

# NORMAL APPROXIMATE TABLE

## PROBABILITY OF VALUE BEING GREATER THAN INDICATED

	90	80	70	60	50	40	30	20	10
COORD									
308211	11.10	16.02	19.57	22.60	25.43	28.26	31.29	34.84	39.75
308221	14.9	20.5	24.6	28.0	31.3	34.5	38.0	42.0	47.7
308231	17.2	23.8	28.6	32.7	36.5	40.3	44.4	49.1	55.7
308241	19.8	25.5	29.7	33.2	36.5	39.7	43.3	47.4	53.1
408211	14.5	20.6	24.9	28.7	32.1	35.6	39.3	43.7	49.7
408221	16.6	22.6	27.0	30.7	34.1	37.6	41.3	45.6	51.7
408231	19.2	25.3	29.7	33.5	37.0	40.5	44.3	48.7	54.8
408241	19.9	25.7	29.9	33.5	36.9	40.2	43.8	48.0	53.8
108311	14.4	20.8	25.4	29.3	33.0	36.7	40.6	45.3	51.7
108321	16.8	22.4	26.4	29.9	33.1	36.3	39.8	43.8	49.4
108331	18.9	25.0	29.3	33.0	36.5	39.9	43.6	48.0	54.0
108341	18.7	24.5	28.7	32.2	35.5	38.9	42.4	46.6	52.3
208311	16.1	22.3	26.8	30.6	34.1	37.7	41.5	46.0	52.2
208321	18.8	24.8	29.1	32.8	36.3	39.7	43.4	47.8	53.8
208331	17.1	23.2	27.6	31.4	34.9	38.4	42.2	46.6	52.7
208341	17.2	23.3	27.7	31.5	35.0	38.5	42.3	46.7	52.8

	PHRH								
308211	6.92	6.94	6.95	6.96	6.97	6.98	6.99	7.01	7.02
308221	6.93	6.94	6.95	6.96	6.96	6.97	6.98	6.99	7.00
308231	6.90	6.94	6.96	6.98	7.00	7.02	7.04	7.07	7.10
308241	6.90	6.93	6.95	6.97	6.98	7.00	7.02	7.04	7.07
408211	6.91	6.94	6.96	6.98	6.99	7.01	7.02	7.04	7.07
408221	6.92	6.94	6.96	6.97	6.99	7.00	7.02	7.04	7.06
408231	6.91	6.94	6.96	6.98	7.00	7.02	7.04	7.06	7.09
408241	6.92	6.95	6.97	6.99	7.01	7.03	7.05	7.07	7.10
108311	6.93	6.96	6.98	7.00	7.02	7.03	7.05	7.07	7.10
108321	6.93	6.97	7.00	7.02	7.05	7.07	7.10	7.13	7.17
108331	6.92	6.97	7.01	7.04	7.07	7.10	7.14	7.17	7.23
108341	6.88	6.95	7.01	7.06	7.10	7.14	7.19	7.24	7.32
208311	6.91	6.98	7.03	7.07	7.11	7.15	7.19	7.24	7.31
208321	6.91	6.98	7.03	7.07	7.11	7.15	7.19	7.24	7.31
208331	6.92	6.99	7.04	7.08	7.12	7.16	7.20	7.25	7.32
208341	6.91	6.98	7.02	7.07	7.10	7.14	7.18	7.23	7.30

	CONDUCTR								
308211	548	607	649	685	719	753	789	832	891
308221	576	619	650	676	700	725	751	782	824
308231	600	634	659	680	699	719	740	765	799
308241	614	653	681	705	727	750	774	802	841
408211	598	637	665	689	711	733	757	785	823
408221	599	635	660	682	702	723	745	770	805
408231	605	639	664	686	705	725	747	771	806
408241	625	657	681	701	720	738	758	782	814
108311	597	632	658	680	700	720	742	767	803
108321	546	605	648	685	719	753	789	832	891
108331	569	625	665	700	732	765	799	840	896
108341	571	629	672	708	741	775	811	854	912
208311	558	621	667	706	743	779	819	864	928
208321	575	634	676	712	746	780	816	858	917
208331	528	596	645	687	726	765	807	856	925
208341	556	617	661	699	734	769	807	851	913

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— A. — D.L.P.C.  
STATE OF ILLINOIS

Plate #2

# FREQUENCY TABL

## PROBABILITY OF VALUE BEING GREATER THAN INDICATED

	90	80	70	60	50	40	30	20	10
COOR									
308211	10.54	16.62	19.80	22.91	25.80	28.60	31.25	35.04	39.07
308221	13.5	19.9	24.6	28.6	32.0	35.0	38.0	41.9	48.2
308231	17.1	23.8	28.7	32.4	35.9	39.9	44.5	49.4	56.1
308241	20.1	26.0	30.0	33.7	36.7	39.5	43.0	47.3	51.6
408211	14.1	21.2	26.1	28.7	32.2	35.5	39.1	43.4	50.1
408221	16.5	22.9	26.3	30.1	34.1	37.9	41.6	45.6	52.5
408231	20.5	25.1	29.1	33.3	36.1	39.8	42.9	48.4	56.1
408241	21.0	25.9	29.1	33.3	36.2	39.8	43.5	48.4	54.6
108311	14.6	21.0	26.2	30.0	33.8	37.9	41.3	45.1	50.0
108321	18.2	22.7	26.5	30.2	33.1	35.6	39.6	44.1	50.0
108331	17.8	24.6	29.7	33.5	36.5	39.9	43.4	48.1	52.8
108341	19.8	25.0	28.6	32.0	35.1	37.7	41.3	46.3	52.4
208311	16.5	22.6	27.8	30.5	33.9	37.2	41.8	45.7	52.8
208321	17.5	24.4	28.8	32.5	36.0	40.2	43.8	48.8	53.6
208331	15.7	22.8	28.4	33.1	35.5	39.4	43.2	46.9	51.2
208341	17.5	23.1	27.8	31.2	35.4	39.0	42.3	46.8	52.9

PHRH									
308211	6.92	6.94	6.95	6.96	6.97	6.98	6.99	7.01	7.03
308221	6.93	6.94	6.95	6.96	6.96	6.97	6.98	6.99	7.00
308231	6.90	6.94	6.97	6.99	7.00	7.02	7.04	7.07	7.10
308241	6.90	6.93	6.95	6.97	6.98	7.00	7.01	7.04	7.07
408211	6.91	6.94	6.96	6.97	6.99	7.01	7.03	7.05	7.07
408221	6.92	6.94	6.96	6.97	6.99	7.01	7.02	7.04	7.06
408231	6.90	6.94	6.96	6.99	7.00	7.02	7.03	7.06	7.09
408241	6.91	6.95	6.97	7.00	7.01	7.03	7.04	7.06	7.10
108311	6.93	6.97	6.99	7.01	7.02	7.04	7.05	7.07	7.10
108321	6.92	6.97	7.01	7.03	7.06	7.07	7.09	7.12	7.15
108331	6.91	6.97	7.01	7.03	7.07	7.10	7.14	7.17	7.23
108341	6.87	6.96	7.00	7.04	7.10	7.14	7.17	7.25	7.34
208311	6.91	6.97	7.02	7.07	7.11	7.15	7.19	7.25	7.32
208321	6.92	6.96	7.02	7.07	7.11	7.15	7.20	7.24	7.32
208331	6.93	6.98	7.04	7.08	7.12	7.17	7.22	7.26	7.32
208341	6.92	6.97	7.03	7.06	7.11	7.15	7.19	7.23	7.30

CONDUCTR									
308211	561	605	648	677	717	750	794	833	900
308221	577	609	652	682	699	723	751	775	819
308231	604	628	656	684	702	719	737	757	809
308241	602	654	681	703	729	750	780	804	842
408211	597	633	664	691	719	736	760	785	820
408221	597	632	660	687	709	725	750	766	799
408231	607	641	663	685	705	720	748	775	805
408241	620	654	680	700	721	741	763	782	812
108311	600	630	655	676	696	715	737	775	812
108321	539	607	653	690	727	755	783	821	882
108331	570	630	667	705	733	758	794	835	891
108341	574	629	656	699	734	774	812	866	911
208311	559	621	669	706	735	766	814	863	936
208321	583	632	677	708	751	782	819	852	908
208331	513	590	657	700	735	774	806	857	923
208341	550	616	660	699	731	766	809	851	920

Plate #3

# SAMPLE STATISTICS

	MEAN	STD DEV	SKENNESS	KURTOSIS	10PC CONF MEAN	90PC
CODR						
308211	25.43	11.18	-.1	2.9	24.60	26.26
308221	31.28	12.78	-.1	2.6	30.34	32.23
308231	36.48	15.02	.0	2.7	35.37	37.59
308241	36.46	12.98	.0	3.3	35.50	37.42
408211	32.13	13.73	.0	2.9	31.12	33.14
408221	34.13	13.67	.1	2.8	33.12	35.14
408231	36.99	13.89	.2	2.9	35.96	38.02
408241	36.87	13.22	.1	2.9	35.89	37.85
108311	33.02	14.54	-.2	2.9	31.95	34.10
108321	33.10	12.75	.0	3.6	32.16	34.05
108331	36.47	13.67	-.1	2.8	35.46	37.48
108341	35.53	13.11	.1	3.2	34.56	36.50
208311	34.15	14.05	-.1	3.1	33.11	35.19
208321	36.27	13.65	.0	2.5	35.26	37.28
208331	34.89	13.91	-.3	2.9	33.86	35.92
208341	35.02	13.91	.1	3.0	33.99	36.05

PHRW						
308211	6.971	.0421	.0	3.1	6.968	6.974
308221	6.964	.0287	-.1	2.8	6.962	6.966
308231	7.003	.0768	-.1	2.8	6.997	7.008
308241	6.985	.0637	.1	2.8	6.980	6.989
408211	6.992	.0630	.1	2.8	6.987	6.996
408221	6.989	.0571	.1	2.8	6.985	6.994
408231	6.999	.0713	.0	2.7	6.994	7.005
408241	7.008	.0715	.0	2.9	7.002	7.013
108311	7.018	.0652	-.3	3.4	7.013	7.023
108321	7.049	.0942	.0	3.1	7.042	7.056
108331	7.071	.1219	.2	2.8	7.062	7.080
108341	7.099	.1709	.1	2.6	7.086	7.111
208311	7.111	.1559	.0	2.8	7.099	7.122
208321	7.110	.1552	.0	2.6	7.098	7.121
208331	7.121	.1545	-.2	2.7	7.109	7.132
208341	7.104	.1505	-.2	3.1	7.093	7.115

CONDUCTR						
308211	719.2	133.8	.0	2.8	709.3	729.1
308221	700.3	96.71	.2	3.1	693.1	707.4
308231	699.3	77.52	.1	2.7	693.6	705.0
308241	727.3	88.51	-.1	2.6	720.7	733.8
408211	710.7	87.80	-.1	2.8	704.3	717.2
408221	702.5	80.37	-.1	2.8	696.6	708.4
408231	705.4	78.46	.0	2.9	699.6	711.2
408241	719.6	74.02	-.1	2.7	714.1	725.0
108311	699.8	80.12	.2	2.5	693.9	705.8
108321	718.8	134.8	.0	3.2	708.8	728.7
108331	732.3	127.6	.1	3.2	722.9	741.7
108341	741.5	133.3	.1	2.9	731.6	751.3
208311	742.8	144.3	.2	2.8	732.2	753.5
208321	745.9	133.2	.0	3.3	736.1	755.8
208331	726.2	154.9	-.3	2.8	714.7	737.6
208341	734.1	139.2	.0	2.8	723.8	744.4

Plate #4

```

HISTOGRAM FOR COLUMN      208341 OF PHRM
34- 36      0 0
31- 33      0 0 0 0
28- 30      0 0 0 0 0
25- 27      0 0 0 0 0 0
22- 24      0 0 0 0 0 0 0
19- 21      0 0 0 0 0 0 0 0
16- 18      0 0 0 0 0 0 0 0
13- 15      0 0 0 0 0 0 0 0
10- 12      0 0 0 0 0 0 0 0 0
7- 9        0 0 0 0 0 0 0 0 0 0
4- 6        0 0 0 0 0 0 0 0 0 0 0
1- 3        0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
-----
6      6      6      7      7      7      7
6      7      8      0      1      2      4
0      4      7      1      5      9      3
3      1      9      7      6      4      2
START      6.6 STOP      7.5 SIZE OF INTERVAL      .05

```

```

HISTOGRAM FOR COLUMN 298341 OF CONDUCTR
37- 39      1
34- 36      1
31- 33      2
28- 30      4
25- 27      5
22- 24      8
19- 21      8
16- 18      8
13- 15      8
10- 12      8
7- 9      8
4- 6      8
1- 3      8
-----
          1
          4  5  6  7  8  9  0
          0  2  3  4  5  7  8
          9  1  4  6  9  1  4
START 390.0 STOP 1140.0 SIZE OF INTERVAL 37 50
ENTER POOL OR MODELING LANGUAGE COMMAND

```

Plate #5